

# **GENEX Assistant**

## **Training Slides**

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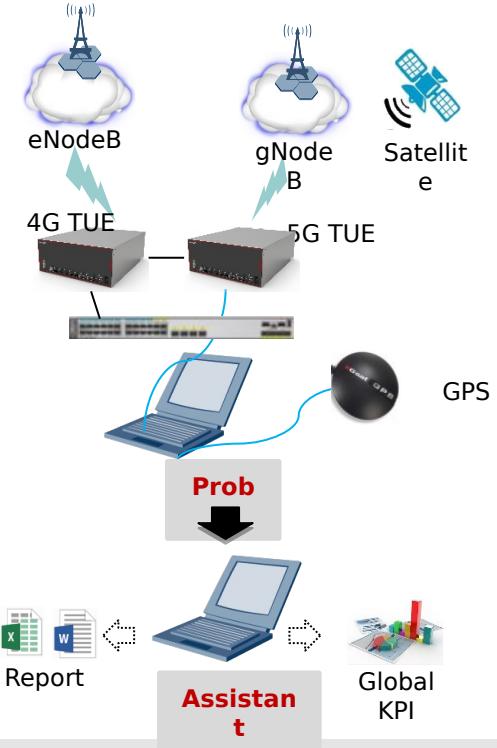
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  - 2.6 TAB File Export

# Product Introduction

- As the postprocessing software for DT (air interface test) data, the Assistant helps engineers efficiently and accurately analyze DT data, learn network performance based on the data, locate problems, and generate results.

## Product characteristics:

- The Assistant supports analysis of GSM\UMTS\ LTE and NR
- The data can be used: overshoot coverage, overlapping coverage and weak coverage, azimuth swapped, serving&neighboring cell analysis, and missing configurations of neighboring
- Multiple data processing mechanisms are provided, including Binning, data query based on search criteria, and data combination.
- Powerful and direct data display capabilities are provided. Detailed data decomposition information about difficult network problems is provided, helping locate problems.





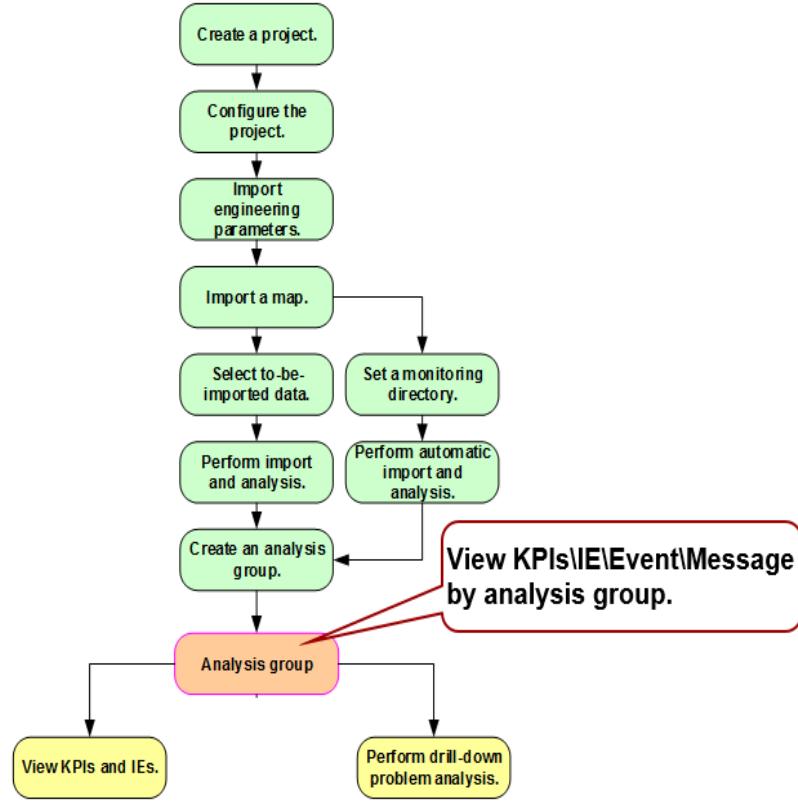
# Contents

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# Operation Procedure

## Procedure

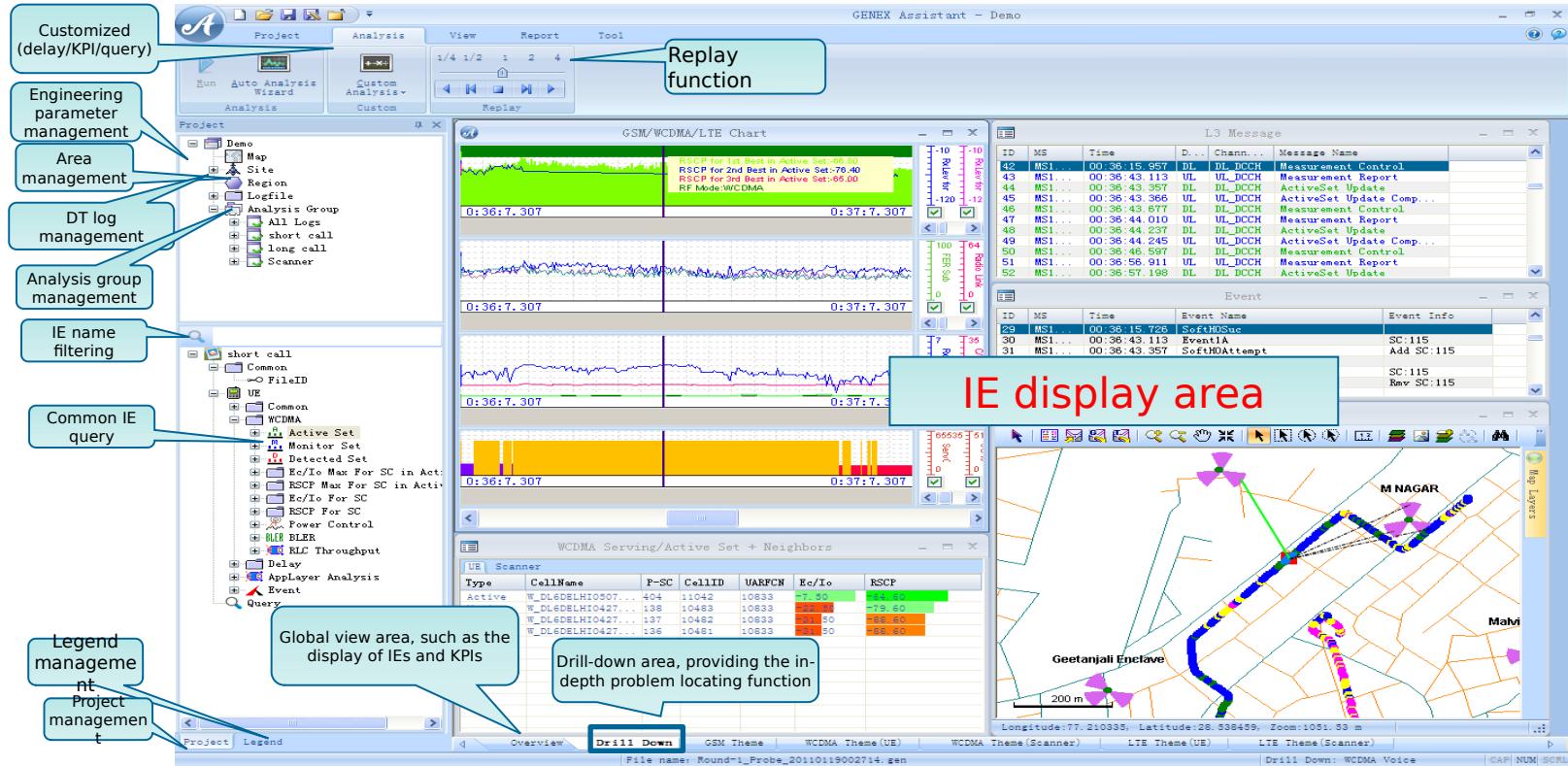
1. Install the Assistant and update the license.
2. Create a project and set the project save path.
3. Configure engineering parameters, import engineering parameters, and import a map.
4. Import DT data
5. Create an analysis group that is a combination of terminal data streams. Mobile phone data and Scanner data can be placed together.
6. Manually perform import and analysis.
7. View KPI results of an analysis group.
8. View analysis reports by analysis group.
9. Drill down events to locate problems



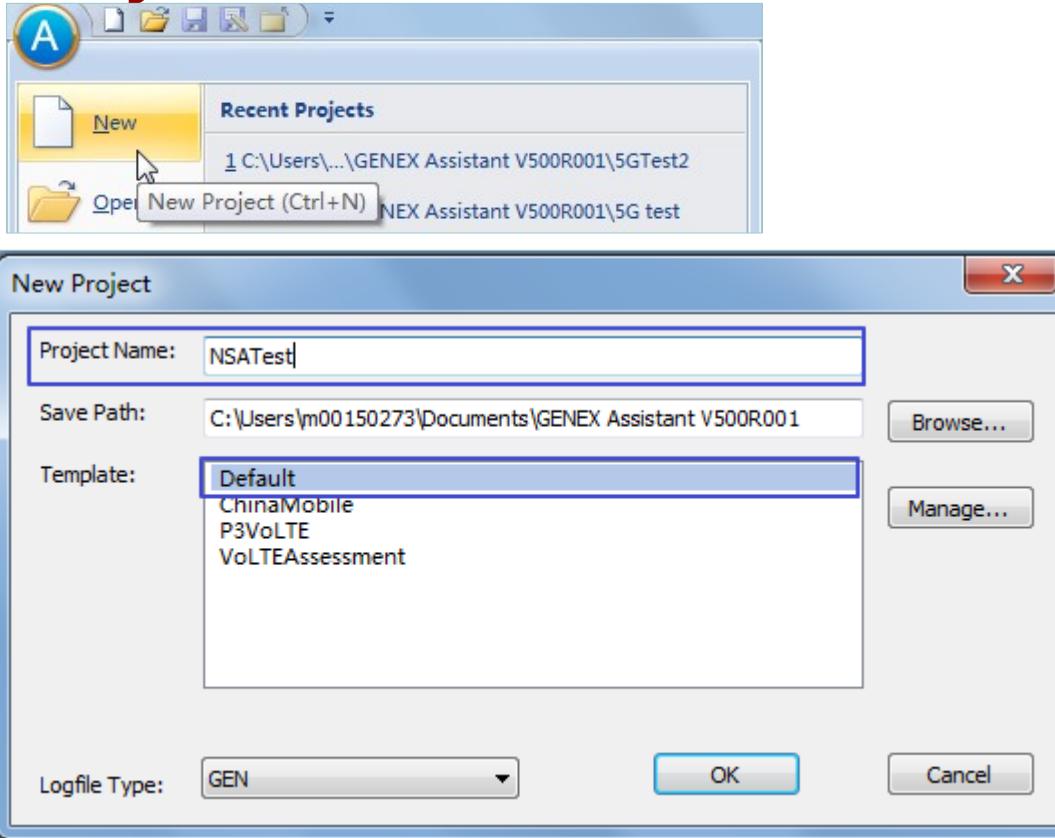
# Install the Assistant and update the license

- 1)download the Assistant from Huawei support website.
- 2)Install the Assistant and you will get the ESN
- 3)Apply the license and update the license.
  - Login China Domain: authentication through a China domain account
  - Login License Server: authentication through a server
  - Offline Update: manual application in offline mode

# Main GUI—

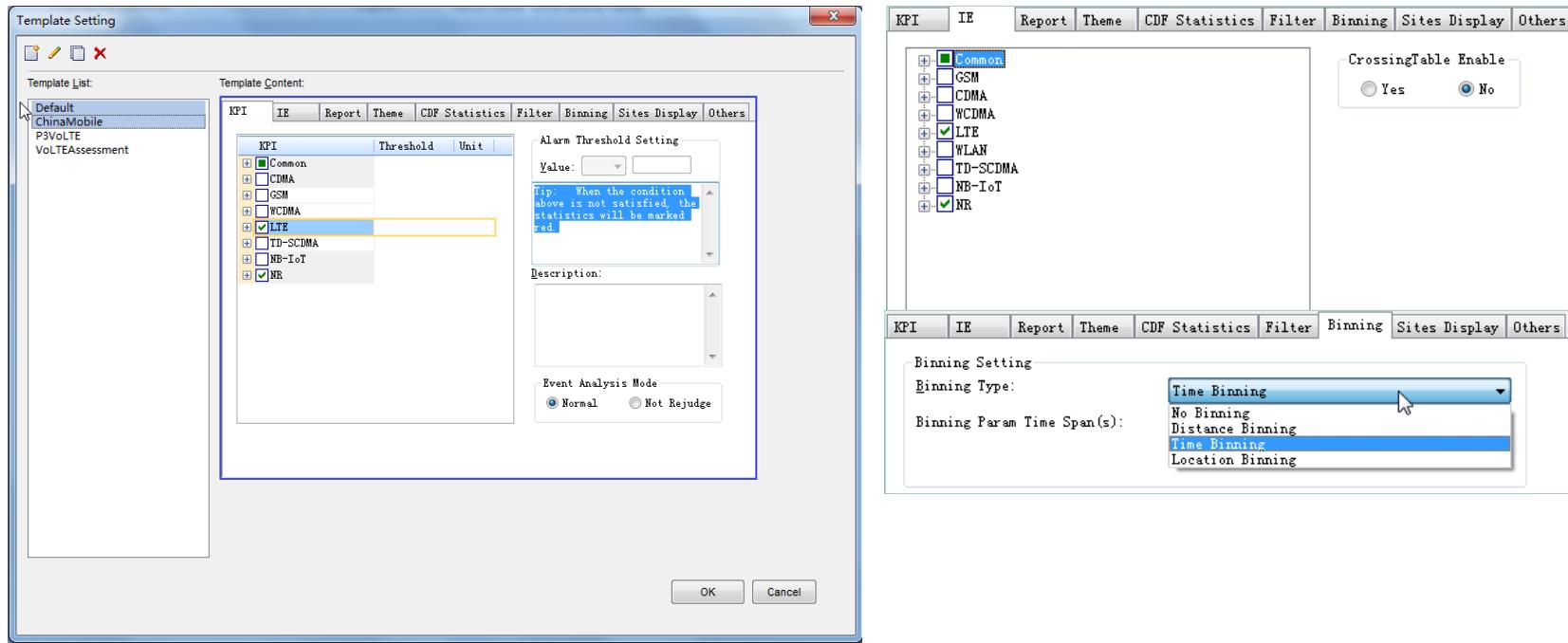


# Project Creation



- Creates a project. You can manage an engineering parameter template by clicking the Manager button.
- Template : Default

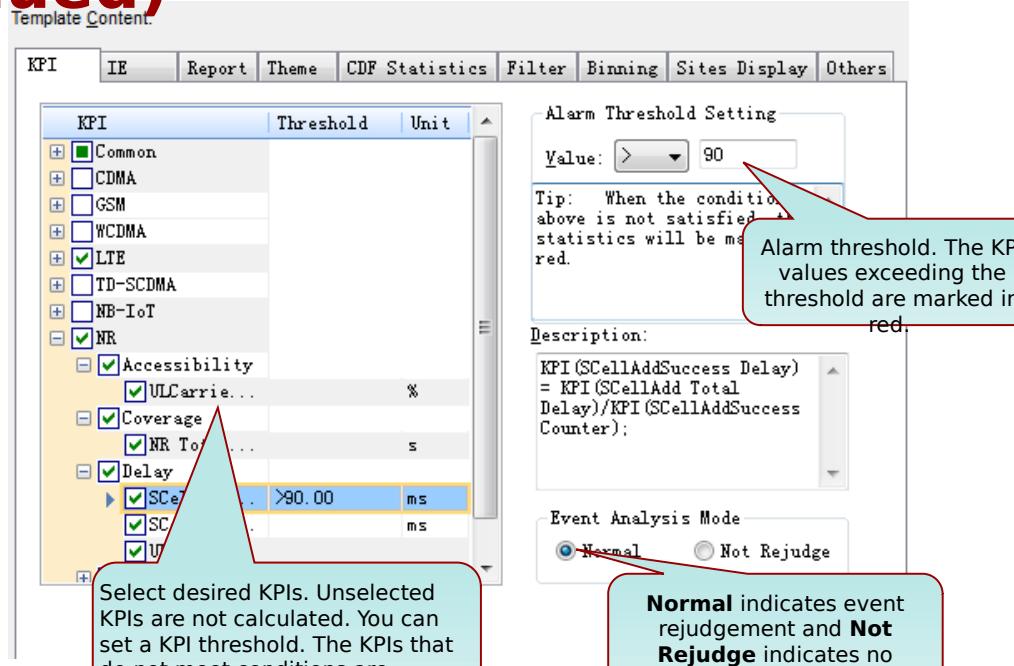
# Project Management Configuration



- You can select statistical items, such as KPI, IE, and Binning Type.

# Project Management Configuration (Continued)

Template Content



- After creating a project, you can modify configuration contents of KPIs and IEs. If default configurations are used, skip this configuration page.

# Project Management Configuration (Continued)

The interface consists of two main panels. The left panel, titled 'Theme List', contains a tree view of various project management themes. The right panel, titled 'Property', displays specific configuration details for a selected theme.

**Theme List:**

- Handover
- Coverage
- Interference
- WCDMA
  - Pilot Pollution
  - RF Theme
  - DL Interference
  - Neighbor Cell
  - Coverage
  - HO Theme
  - WCDMA Inter
  - Abnormal Event
  - Throughput
  - PSC Optimization
- LTE

**Property:**

Property	Value
Common	Extend Distance(%): 10.00

**IE filter condition**  
Logical Operator:  and  or

Index	IE Condition Item
1	
2	
3	
4	

**Time filter condition**

Index	Time Condition Item
1	
2	
3	
4	

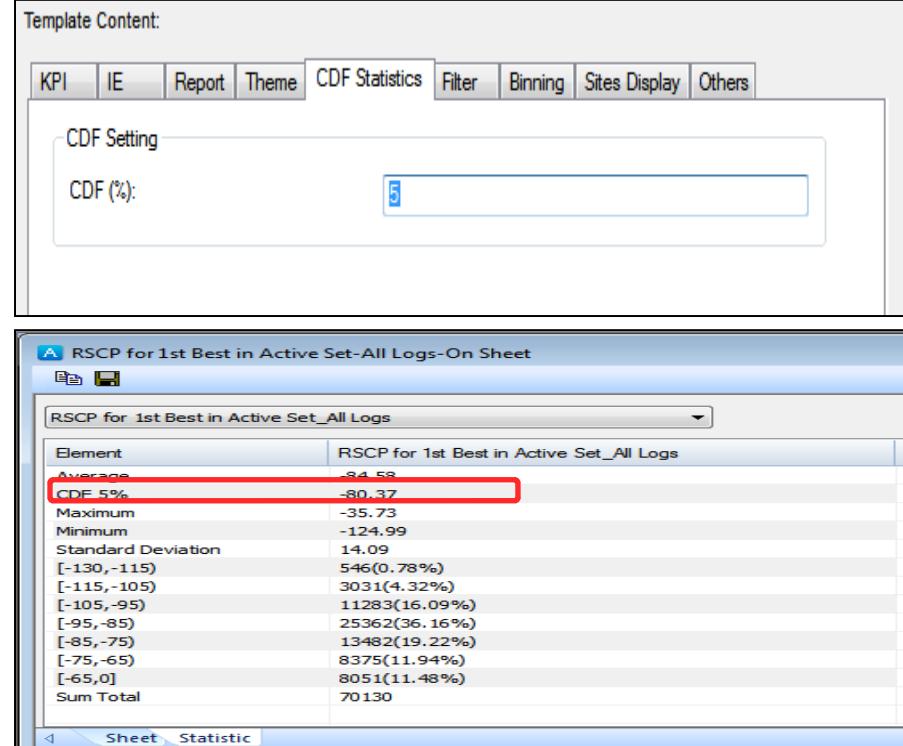
**Add...** **Delete** **Clear**

- Theme parameter setting: Set theme thresholds to affect theme result generation.
- Filtering function: Set time and IE conditions to reserve data meeting conditions.

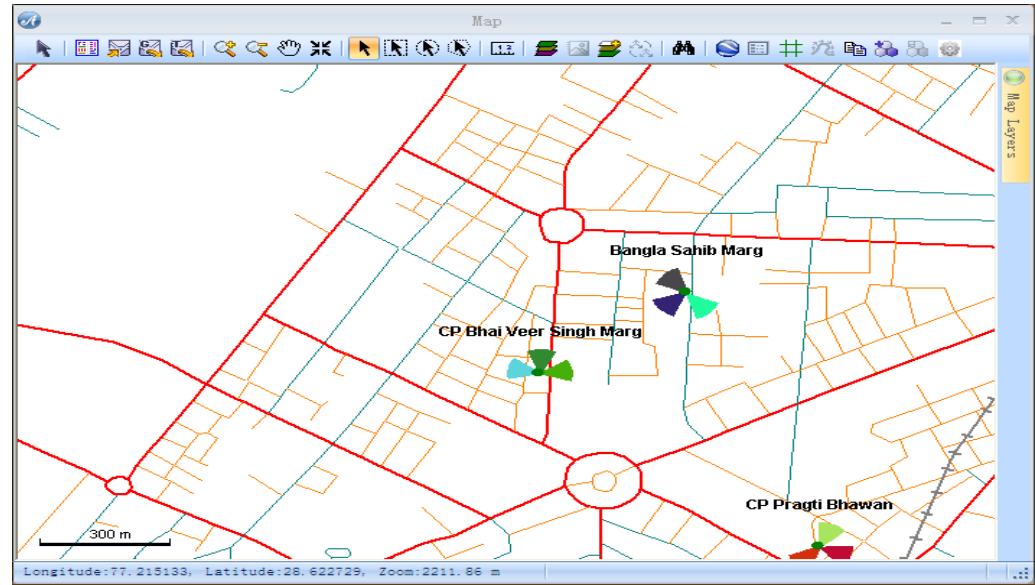
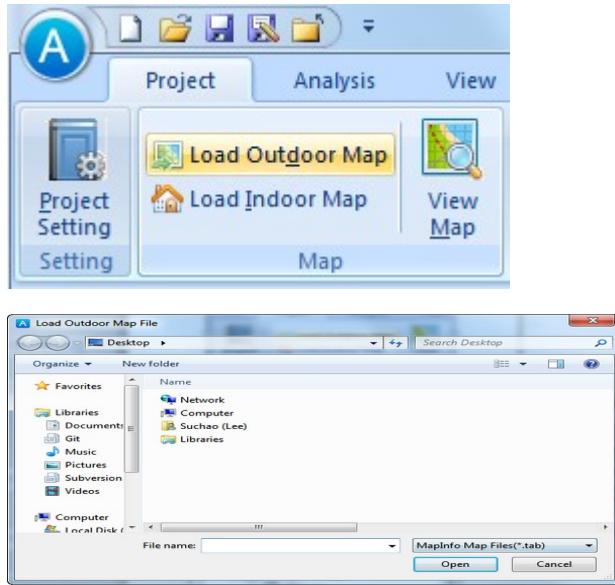
# Project Management Configuration (Continued)

The screenshot shows the Project Management Configuration interface. At the top, there are several tabs: KPI, IE, Report, Theme, CDF Statistics, Filter, Binning, Sites Display, and Others. The Report tab is currently selected. Below the tabs, there is a tree view with three items: ExcelReportTemplate, UserCustomReportTemplate, and WordReportTemplate. Under the Report tab, there is a table titled "Property" with columns "Property" and "Value". The properties listed are: Report composite show (Yes), Map legend composite show (No), Grid show (Yes), Indoor min PCI (360), Indoor max PCI (478), and RSRP Difference Value (5). Below the table, there is a section titled "Grid show" with the note: "The grid will be shown on the map picture if the value is yes."

- Report: sets the report generation conditions, such as whether the legend is displayed. The purpose is to speed up report generation.
- CDF Statistics: sets the CDF percentage, which is displayed on the **Statistic** sheet.

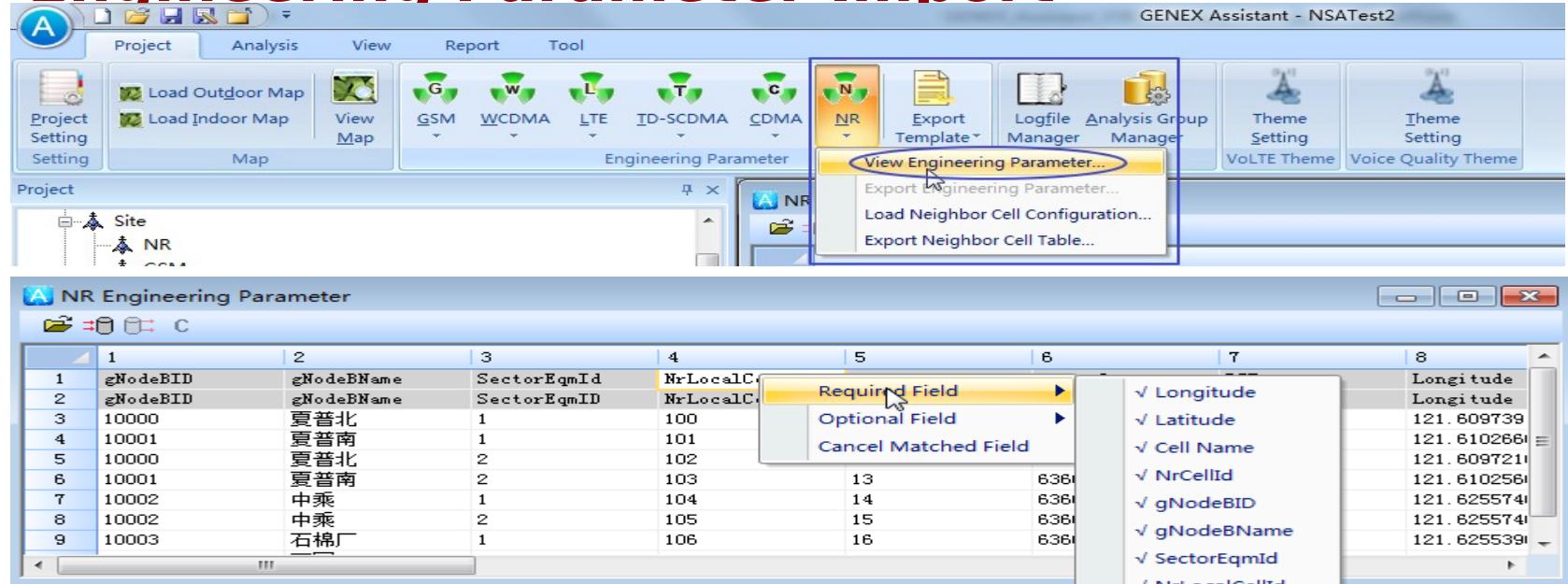


# Indoor and Outdoor Map Import



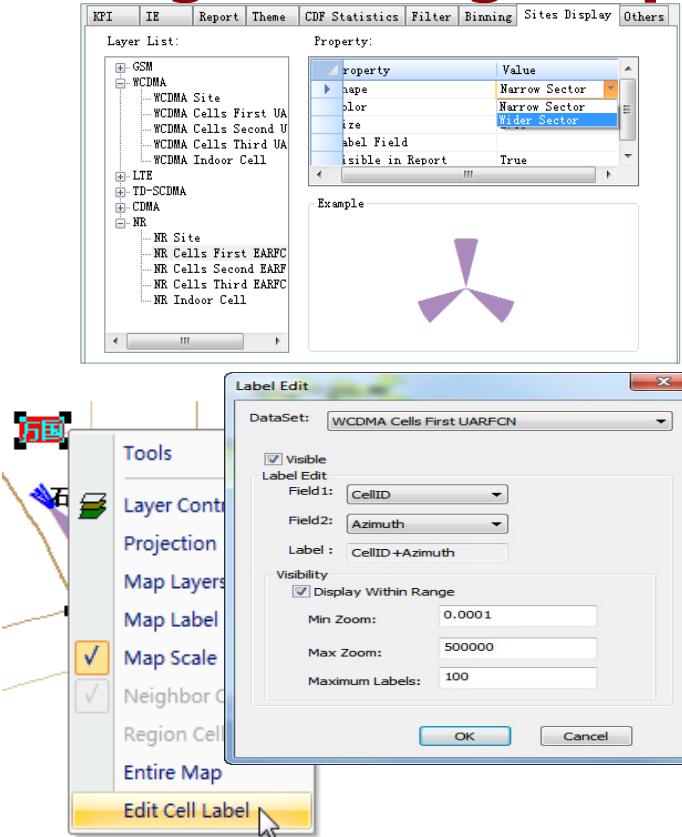
- Outdoor maps support import of electronic maps in MapInfo, BMP, JPG, and GIF formats.
- Indoor maps support BMP, JPG, GIF, PNG, and TIF formats.

# Engineering Parameter Import



- Procedure for importing engineering parameters:
  - Choose **Site** > NR in the project tree.
  - Choose **View Engineering Parameter** and click the import icon in the LTE **Engineering Parameter** window to import engineering parameters.
- In the NSA network, import the LTE engineering parameters in the same time.

# Engineering Map Display Control

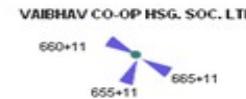


## ➤ Display setting method 1:

Portal: Project Setting->Sites Display

Setting items: You can set the shape and size of a base station or cell, displayed character, whether to display cell information in a report.

Impact scope: all map pages for the entire project.



SiteName, BCCH, and BSIC display effect for GSM

## ➤ Display setting method 2:

Portal: Click **Edit Cell Label** on an engineering parameter map layer to set the label.

Impact scope: current map page

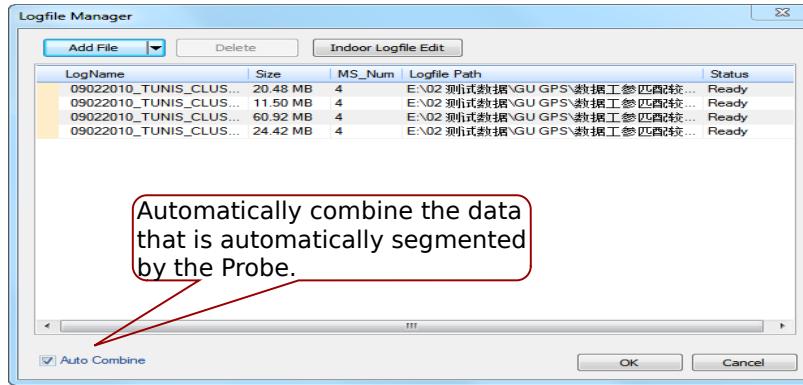


NodeBName, CellID, and PSC display effect for WCDMA



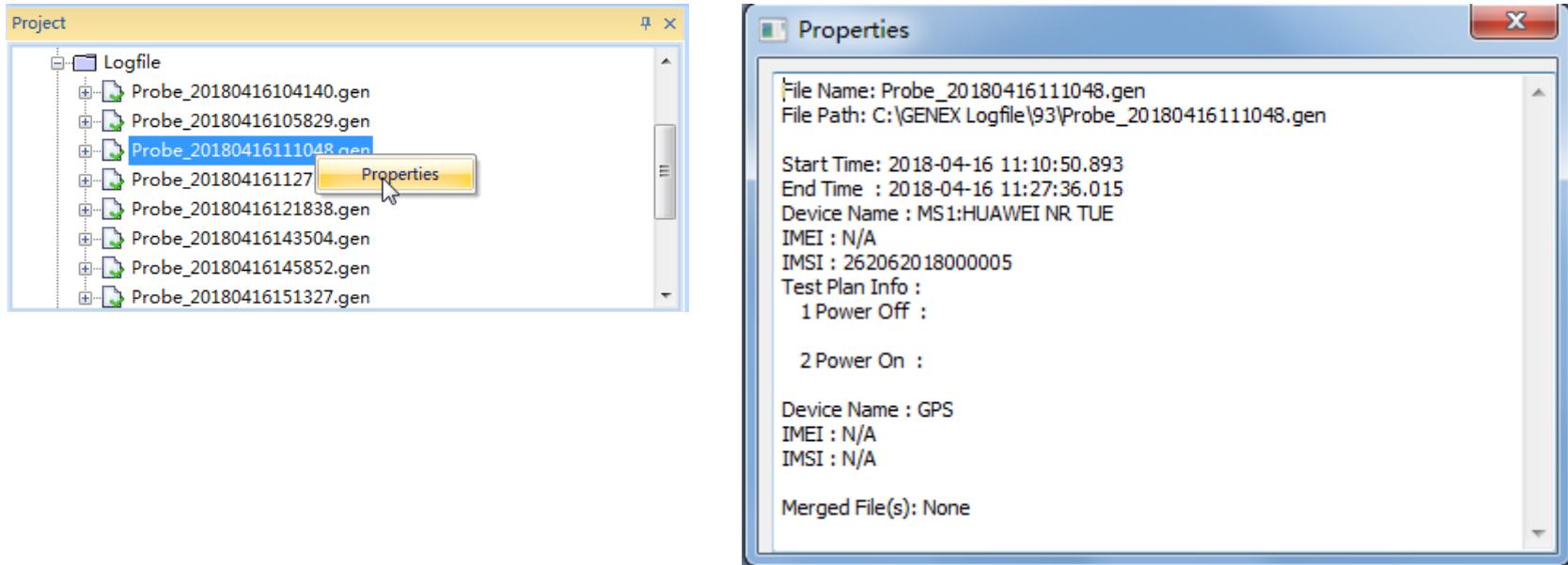
eNodeBName, CellID, and PCI display effect for LTE

# Data Import



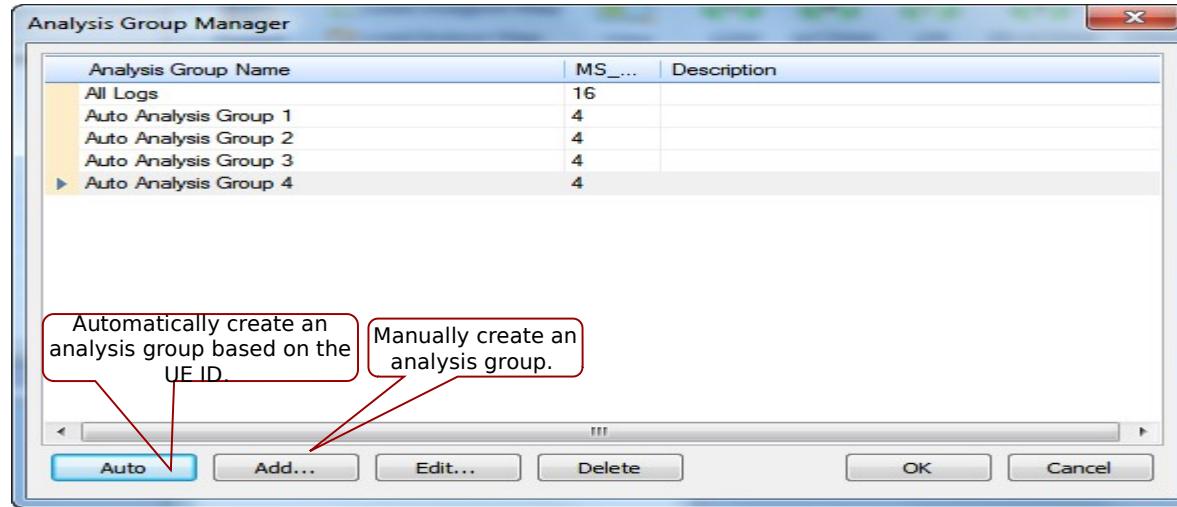
- Import and analysis procedure:
  - Step 1: Select data in the Logfile Manager.
  - Step 2: Create an analysis group. For details about how to create an analysis group, see the next page.
  - Step 3: Right-click **Analysis Group** and choose **Run Analysis** from the shortcut menu. Complete data parsing at a time, which takes a long time. The system quickly generates desired results based on the created analysis group (quick secondary calculation).

# Test Plan Check and test information



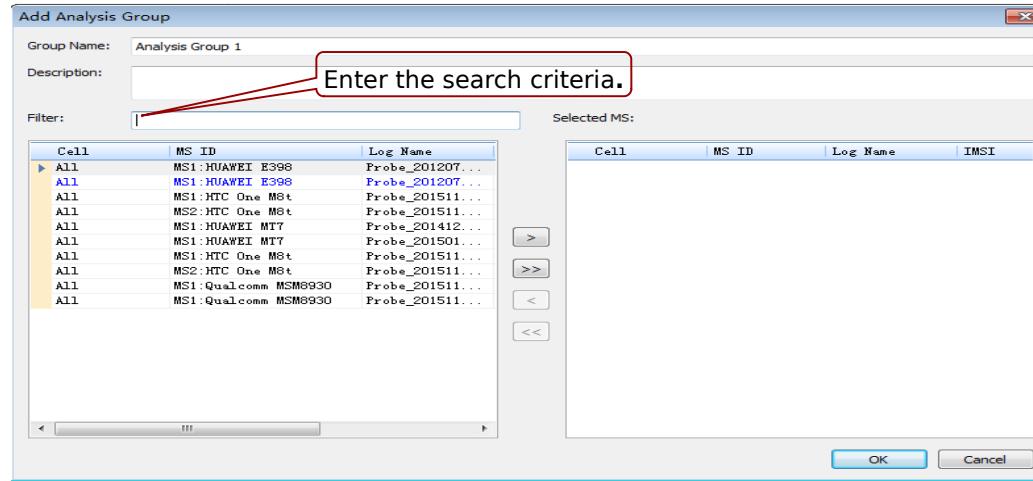
- The Assistant allows you to check test plans in detail, which helps you analyze data and create analysis groups.

# Analysis Group Management



- An analysis group is a group of data. You can place different terminal data in analysis groups based on service requirements. You can create analysis groups based on the MS ID, device type, IMEI, and IMSI.
- Automatic creation of an analysis group: A UE ID corresponds to a terminal ID during a Probe test. If a test plan remains unchanged, the UE ID remains unchanged. If an analysis group is automatically created when the test plan is not changed, automatic combination is implemented based on the test plan to create the analysis group.
- Procedure: Right-click **Analysis Group** in the project tree and choose **Analysis Group Manager** from the shortcut menu. Create an analysis group in the displayed analysis group management window.

# Analysis Group Creation



- You can create analysis groups based on different service scenarios and based on the MS ID, device type, IMSI, and IMEI. Example: 1. Collect statistics on KPIs for different services. Place data of terminals for the same service type in the same analysis group. 2. Alternatively, create analysis groups based on terminals. For example, create an analysis group for HTC One terminals and create another for the Scanner.

# KPI Browsing

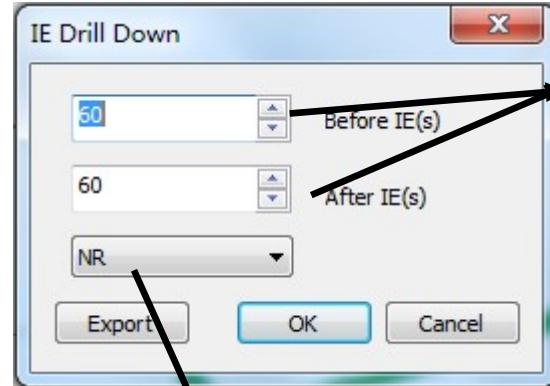
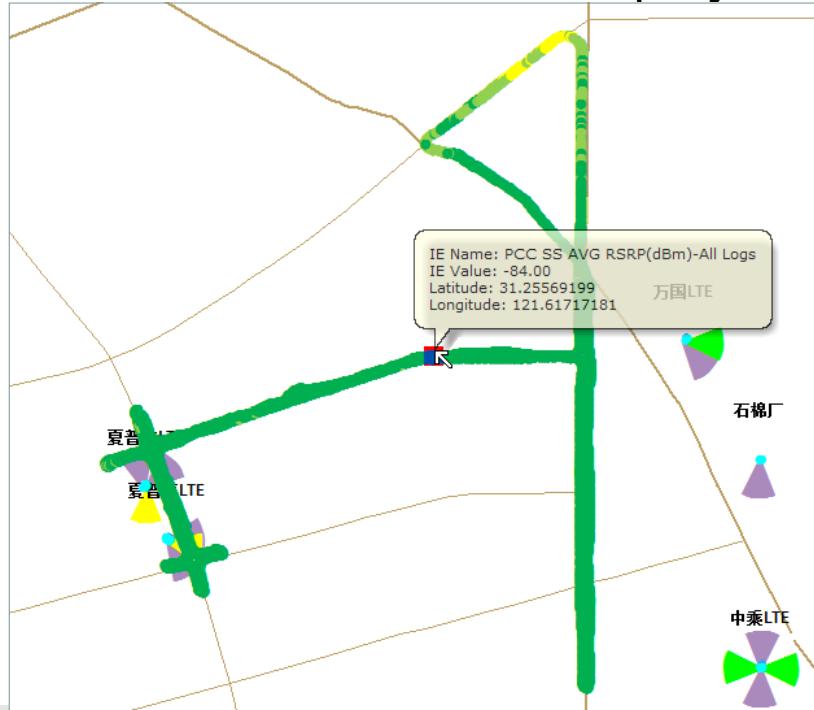
The screenshot shows the KPI Browsing interface. On the left is a tree view of KPI categories under 'Common' (Accessibility, Coverage, Delay, Retainability, Service integrity), 'CDMA', 'GSM', 'WCDMA', 'LTE', 'TD-SCDMA', 'NB-IoT', and 'NR'. Under 'NR', there are three groups: Accessibility, Delay, and Retainability. The 'Delay' group is expanded, showing 'SCellAddSuccess Delay(ms)', 'SCellModSuccess Delay(ms)', and 'ULCarrierUpdateUpdateSuc Delay'. The 'SCellAddSuccess Delay(ms)' row is selected and highlighted in yellow. The main table area displays statistics for these KPIs across four analysis groups (93, 98, 99, 100). A callout box points to the table with the text: 'Statistics on general KPI results are collected based on analysis groups.' At the bottom, a 'KPI Calculate Expression' box contains the formula:  $KPI(SCellAddSuccess Delay) = KPI(SCellAdd Total Delay)/KPI(SCellAddSuccess Counter);$ . Below this is a table of events with columns 'Time' and 'Event Name', listing entries for April 16, 2018, such as 'NRSCellAddAt...', 'NRSCellAddSu...', and 'NRSCellAddAt...'. A callout box points to this table with the text: 'Double-click a KPI to view correlated events in detail. Double-click an event for drilldown analysis. For details, see the drilldown view.' A separate callout box points to the expression box with the text: 'Double-click a KPI to view correlation factor values.'

- The Assistant provides the unified KPI browsing function. You can uniformly view KPIs of multiple analysis groups. In addition, the Assistant classifies various KPIs.
- Double-click the result value of a KPI to display the calculation formula, and numerator and denominator of the KPI.
- In addition, a list of events of a type in the analysis group can be automatically displayed based on the KPI type for you to quickly view the time point when events fail and related log file information.

# Drilldown View and Method(1)

## Drilldown method:

Double-click a sheet or map on the **Overview** sheet. The drilldown window is displayed.



Set the IE number before and after the click point.

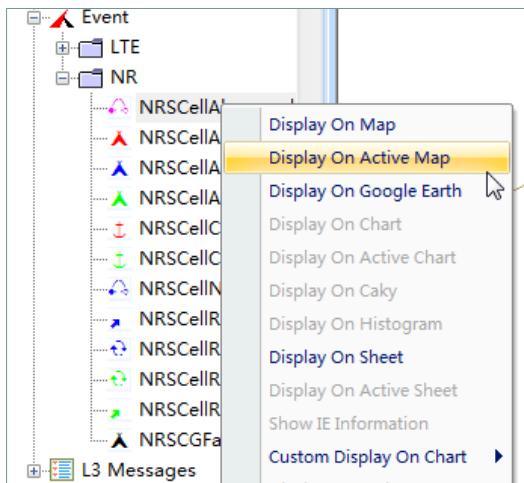
Select the technology

# Drilldown View and Method(2)

- Drilldown view:

Overview is automatically switched to Drill Down which can display L3 signaling, SIP signaling, event, active set, and Map windows. The windows are associated with each other for detailed problem analysis.

Show the event on the map  
and double click to drill down

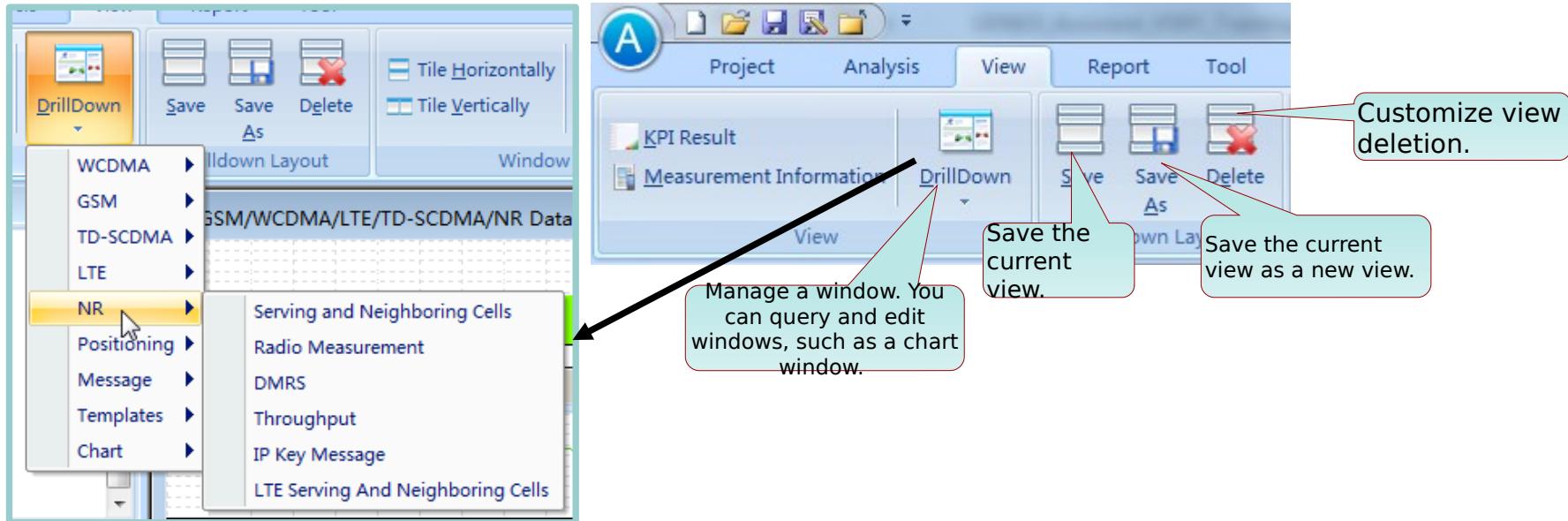


# Drilldown View and Method(2)

The screenshot displays four windows from a network monitoring application:

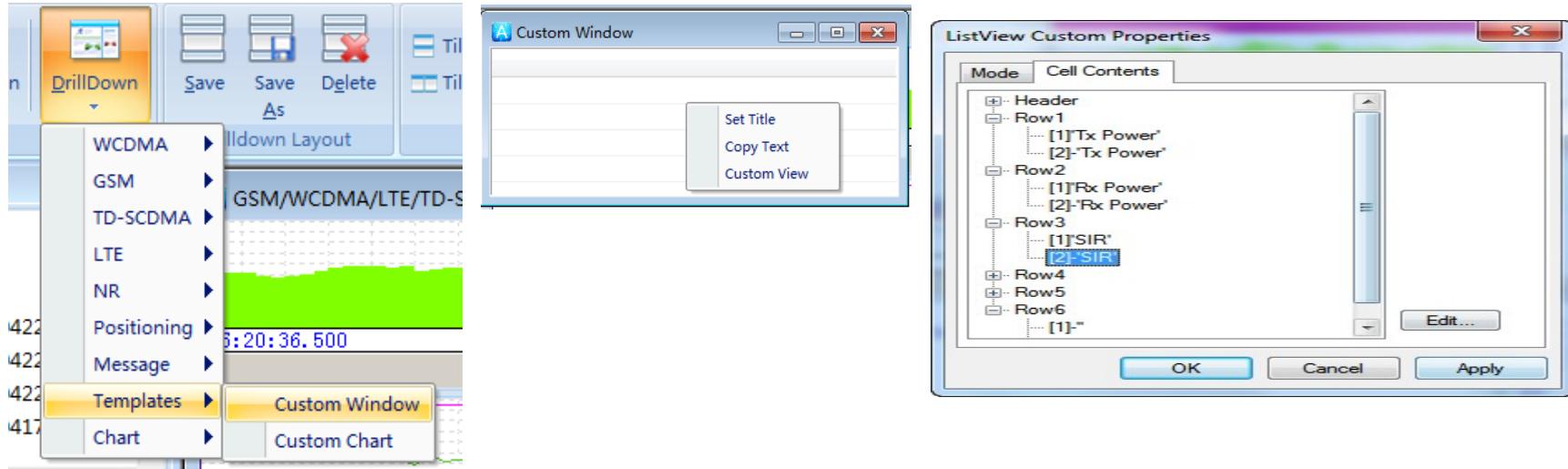
- GSM/WCDMA/LTE/TD-SCDMA/NR Data Chart**: A multi-panel chart window showing various signal metrics over time. A red callout box labeled "Customized chart" points to the top-left panel.
- L3 Message**: A table listing L3 messages with columns for ID, MS, Time, Direction, Channel, and Message Name. A red callout box labeled "L3 signaling window. This window can be customized." points to the table.
- Event**: A table listing events with columns for ID, MS, Time, and Event Name. A red callout box labeled "Event window. This column can be customized." points to the table.
- NR Serving + Neighboring Cells**: A table showing serving and neighboring cell information for User Equipment (UE). A red callout box labeled "Serving cell and neighboring cell measurement window" points to the table.
- DrillDown Map**: A map showing a path or route with colored dots. A red callout box labeled "Add IE map layers by clicking Add Layers on a map." points to the map area.

# Drilldown View Management Function



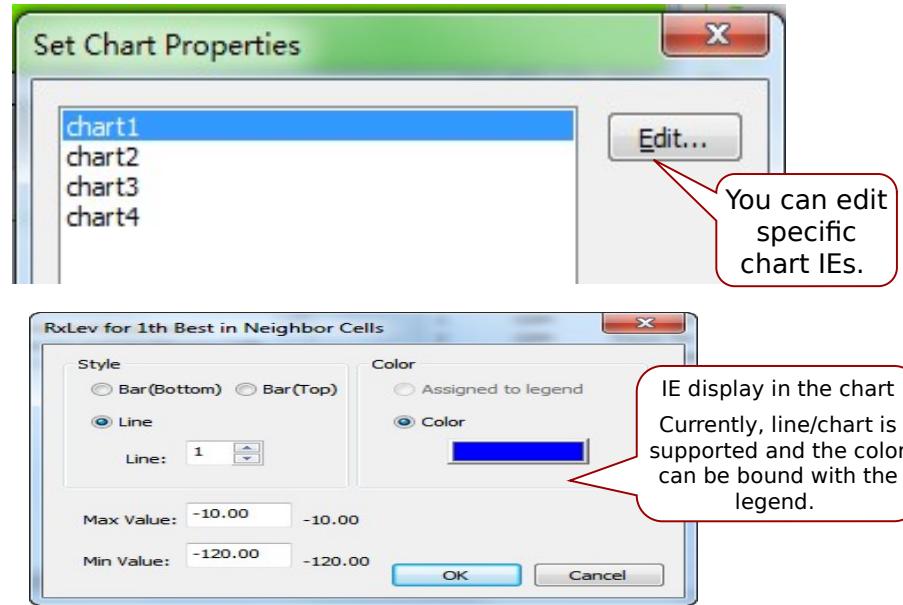
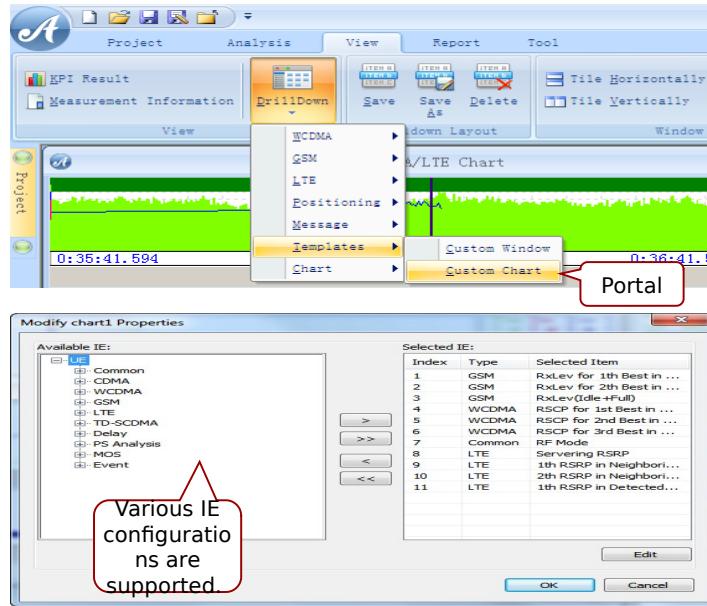
- The Assistant provides the drilldown view layout management function, including adding, modifying, and deleting a view. The view layout can be customized based on user requirements.
- During drilldown, various predefined windows are provided, including **Chart/ListView/Map/Message** windows. In addition, displayed contents can be customized.

# Customized List View Window Drilldown



- When the IEs cannot meet requirements during drilldown, you can add a customized drilldown window and add required IEs to the drilldown window.

# Customized Chart Drilldown

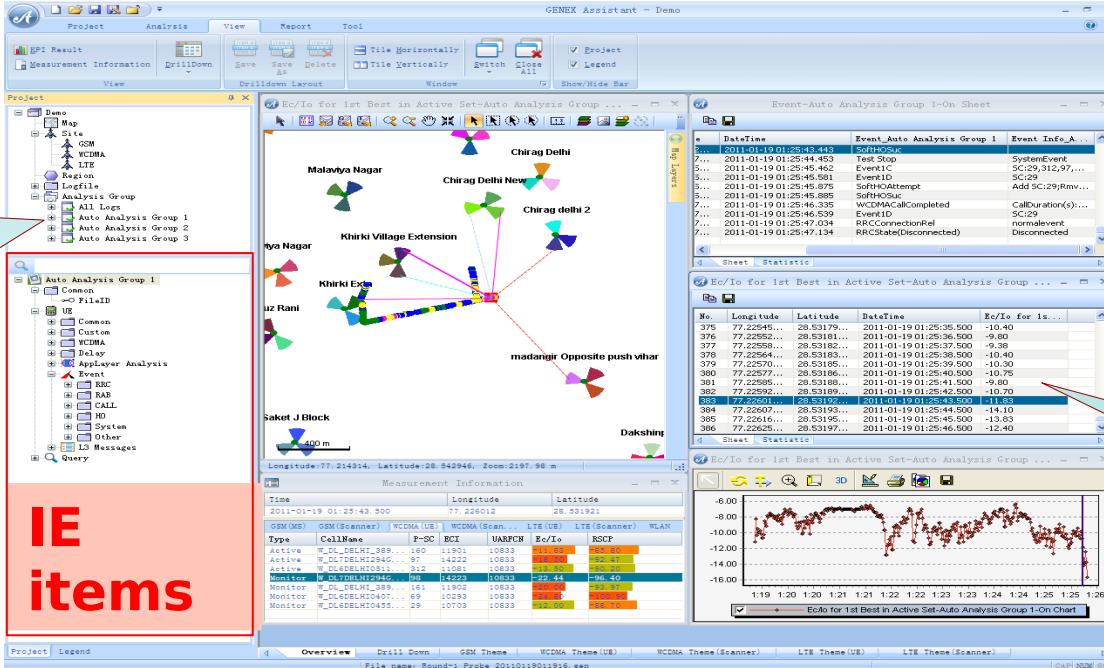


- When the chart IEs cannot meet requirements during drilldown, you can add or modify a customized drilldown window and add required IEs to the drilldown window.

# IE GUI Description

Analysis group switching  
After you click an analysis group, the IE tree immediately changes.

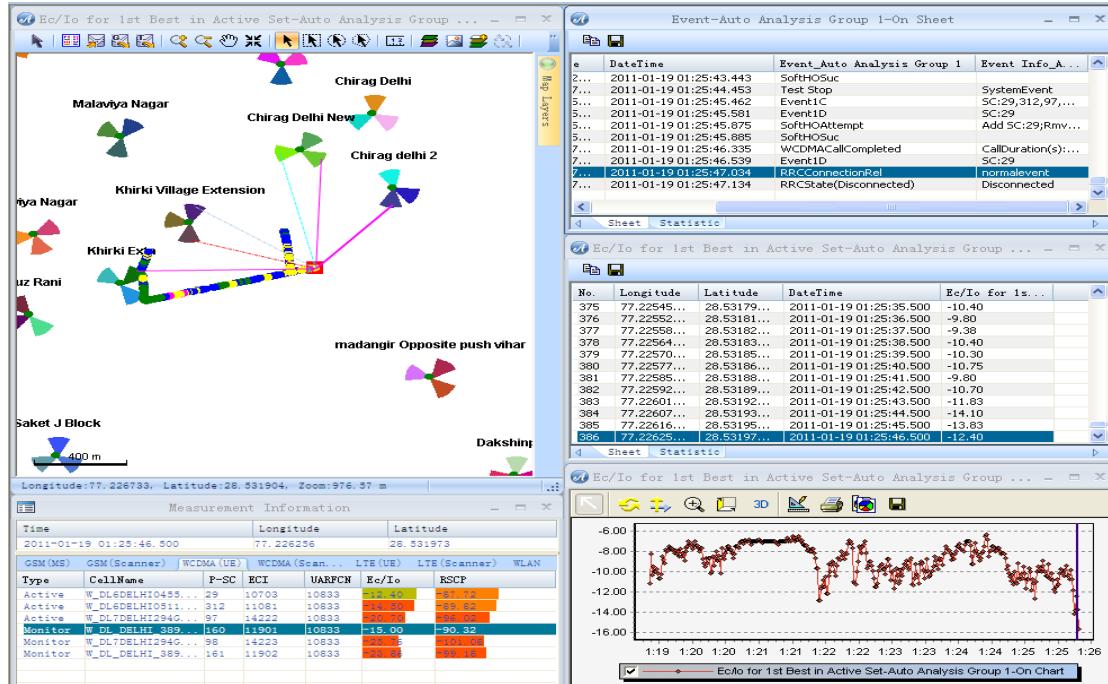
Common IEs for  
GSM, UMTS,  
and LTE are  
supported.



IEs can be displayed using  
Map, Sheet, Chart,  
Histogram, and Google  
Earth.

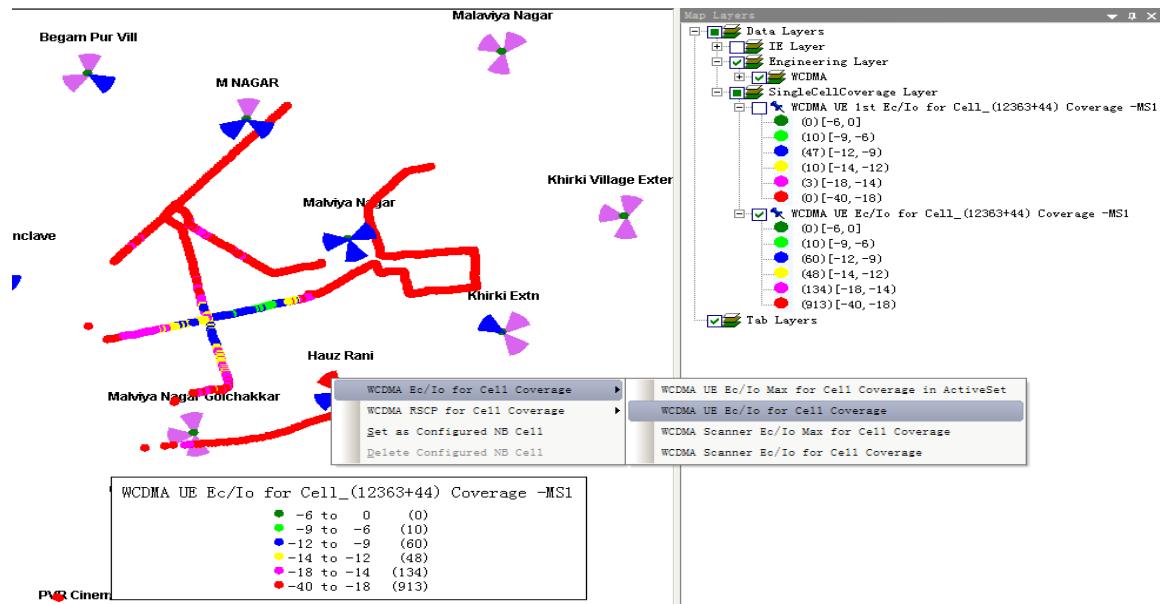
The Assistant supports various IEs and displays them in a straightforward way.

# IE Display - Association



- The Assistant supports multiple association modes, helping locate problems.
  - Map, Sheet, and Chart can be associated with each other.
  - Micro information association is supported. Measurement Information can be associated with neighboring cell information measured by a UE or Scanner.
  - Cell connections are supported on a map.

# LTE Single-Sector Coverage Map---NR



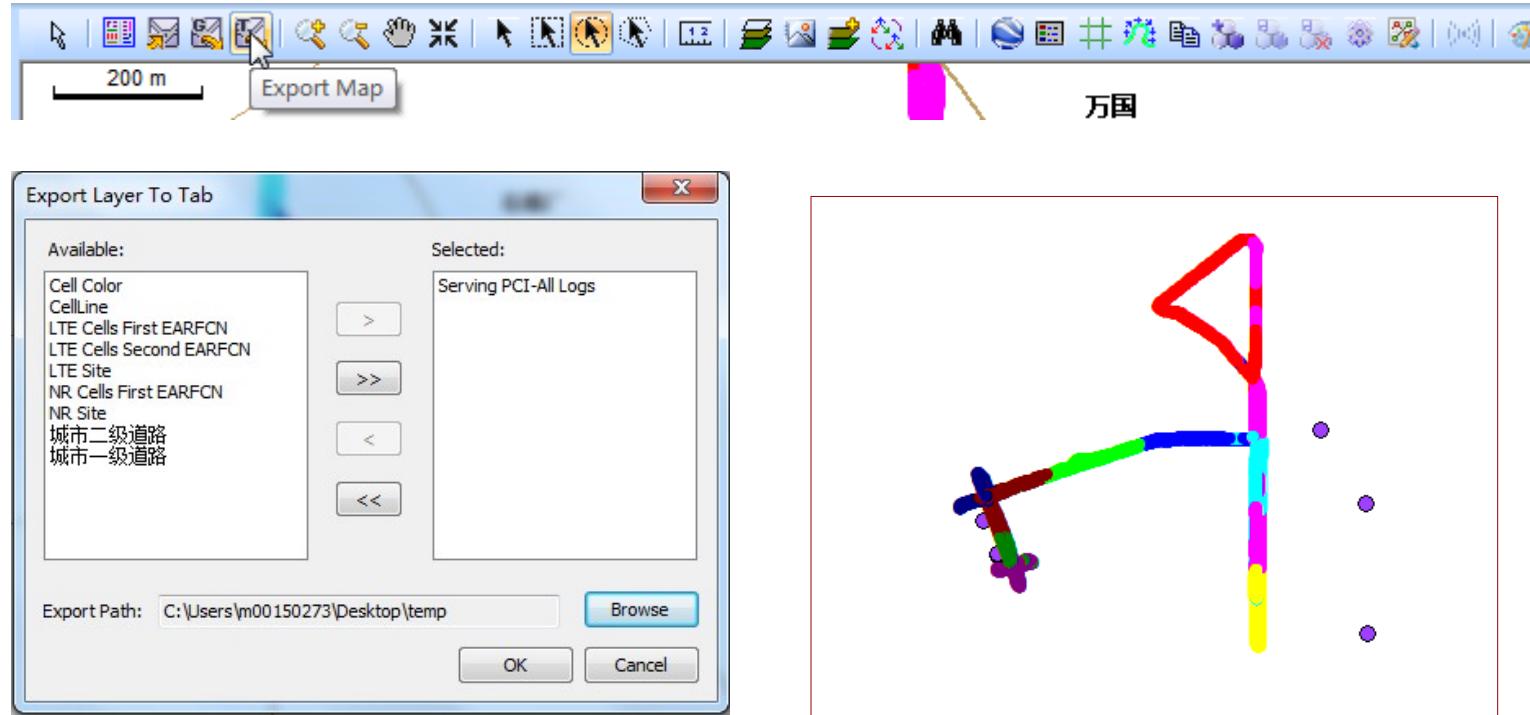
- Right-click a sector on a map and choose an item from the shortcut menu to generate a single-sector coverage map. Supported terminal types are UE and Scanner.
- Coverage maps for GSM/UMTS/LTE cells that serve as serving cells can be generated.
- Coverage maps for all measured signals in GSM/UMTS/LTE cells can be generated.

# NR Area Connections



- Right-click an IE area on a map and choose **Region CellLine** from the shortcut menu to connect areas.
- During cell connections, corresponding cell rendering is implemented on the map. The rendering color is the same as the connection color.

# TAB File Export



- You can export map layers on a map as TAB files for display in MapInfo.

# Thank you

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